

Docket No. 520.43302PX1
Serial No. 10/724,750
Office Action dated September 16, 2005

AMENDMENTS TO THE CLAIMS

The following listing of claims replaces all prior listings, and all prior versions, of claims in the application.

LISTING OF CLAIMS:

1. (Currently Amended) A method for inspecting defects, comprising the steps of:

illuminating light to an inspection object containing repetitive circuit patterns
~~formed circuit pattern on a surface thereof;~~

detecting an image signal ~~of corresponding to~~ transmission light by ~~shielding~~
selectively shielding a diffraction light pattern generated from said ~~circuit pattern in~~
~~lights repetitive circuit patterns when the illuminating light is~~ reflected from the
surface of said inspection object; and

detecting the defects existing on the surface of the inspection object by
processing the detected image signal;

wherein said selective shielding of said diffraction light pattern in said
detecting step is performed by using a micro-mirror array device or a reflected type
liquid crystal, or a transmission type liquid crystal, or an object which is transferred a
shielding pattern to an ~~optical~~optically transparent substrate, or a substrate or a film
which is etched so as to leave shielding patterns, or an ~~optical~~optically transparent
substrate which can be changed in transmission by heating, sudden cold, or light
illumination, or change of electric field or magnetic field, or a shielding plate of
cylindrical shape or plate shape.

2. (Currently Amended) A method for inspecting defects according to claim 1,
wherein said ~~inspection object is formed~~repetitive circuit patterns comprise a plurality

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of chips being ~~repeated the circuit pattern on the surface~~ formed on the surface of said inspection object, and said selective shielding of the diffraction light pattern is performed according to a change of the diffraction light pattern for every area in one chip being obtained by detecting diffraction light patterns for one chip as a Fourier transform image.

3. (Cancelled).

4. (Currently Amended) An apparatus for inspecting defects ~~according to claim 3; wherein~~ comprising:

an illumination optical system which illuminates light to an inspection object containing repetitive circuit patterns formed on a surface thereof;

an optical detection system which detects light reflected from said inspection object and transmitted through a shield unit, and converts the detected light into an image signal; and

a processing system which detects the defects by processing the image signal detected by said optical detection system;

wherein said shield unit is provided in said optical detection system to selectively shield diffracted light patterns coming from the repetitive circuit patterns existing on the inspection object; and said shielding unit comprises a micro-mirror array device or a reflected type liquid crystal, or a transmission type liquid crystal, or an object which is transferred a shielding pattern to an ~~optical~~ optically transparent substrate, or a substrate or a film which is etched so as to leave shielding patterns, or an ~~optical~~ optically transparent substrate which can be changed in transmission by

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heating, sudden cold, or light illumination, or change of electric field or magnetic field, ~~or a shielding plate of cylindrical shape or plate shape.~~

5. (Currently Amended) An apparatus for inspecting defects according to claim 34; ~~wherein further comprising an optical observation unit which observes a Fourier transform image as diffraction light patterns for one chip in a Fourier transform plane, and wherein said repetitive circuit patterns comprise said inspection object is formed a plurality of chips being repeated the circuit pattern formed on the surface of said inspection object, and said shielding unit comprises so as to shield selectively shields the diffraction light pattern in accordance with change information of the diffraction pattern for every area in one chip in the diffraction light patterns for one chip obtained by the optical observation unit.~~

6. (New) A method for inspecting defects, comprising the steps of:
illuminating light to an inspection object containing repetitive circuit patterns

formed on a surface thereof;

detecting an image signal of transmission light by selectively shielding diffraction light pattern generated from said repetitive circuit patterns when light is reflected from the surface of said inspection object; and

detecting the defects existing on the surface of the inspection object by processing the detected image signal;

wherein said repetitive circuit patterns comprise a plurality of chips formed on the surface of said inspection object, and said selective shielding of the diffraction light pattern is performed according to a change of the diffraction light pattern for

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every area in one chip obtained by detecting diffraction light patterns as a Fourier transform image.

7. (New) An apparatus for inspecting defects comprising:

an illumination optical system which illuminates light to an inspection object containing repetitive circuit patterns formed on a surface thereof;

an optical detection system which detects light reflected from said inspection object and transmitted through a shield unit, and converts the detected light into an image signal;

a processing system which detects the defects by processing the image signal detected by said optical detection system; and

an optical observation unit which observes a Fourier transform image as diffraction light patterns for one chip in a Fourier transform plane;

wherein said repetitive circuit patterns comprise a plurality of chips formed on the surface of said inspection object, and said shield unit is provided in said optical detection system so as to selectively shield diffraction light patterns coming from the repetitive circuit patterns existing on the inspection object in accordance with change information of the diffraction light pattern for every area in one chip in the diffraction light patterns for one chip obtained by the optical observation unit.